

WHAT IS CLAIMED IS:

1. A method of producing a molten iron having a carbon content of 3.0 mass% or more, comprising:

5 feeding a raw material mixture containing a carbonaceous reducing agent, an iron oxide-containing material and a CaO-containing material onto a hearth of a moving-hearth reducing furnace;

heating the raw material mixture in the reducing furnace and thus reducing an iron oxide in the raw material mixture;

10 generating a solid reduced iron having a metallization ratio of 80% or more;

feeding the solid reduced iron in the state kept at high temperature into a melting furnace and further heating the solid reduced iron therein; and

15 reducing the partially remaining iron oxide and melting the solid reduced iron; wherein a blending amount of the CaO-containing material in the raw material mixture is adjusted in such a manner that

another feeding of the CaO-containing material into the melting furnace makes a basicity of a slag generated in the melting furnace 1.1 or more and that

20 an feeding amount of the CaO-containing material becomes 40 kg or less per ton of the molten iron obtained in the melting furnace.

2. The method of producing a molten iron according to Claim 1, further comprising:

25 feeding a powdery carbonaceous material onto the hearth of the moving-hearth reducing furnace as a hearth material; and

feeding the raw material mixture containing a carbonaceous reducing agent, an iron oxide-containing material and a CaO-containing material onto the hearth material.

3. The method of producing a molten iron according to Claim 2, wherein
an amount of the carbonaceous material fed as the hearth material onto
the hearth of the moving-hearth reducing furnace is 30 kg or more per ton of
5 the molten iron obtained in the melting furnace.

4. The method of producing a molten iron according to Claim 2 or 3,
wherein

10 the feeding amount of the carbonaceous material for the hearth material
is adjusted in such a manner

that an amount of the CaO-containing material blended in the raw
material mixture is sufficient for making the basicity of the slag generated in
the melting furnace 1.1 or more and

15 that an amount of the carbonaceous material of a non-combustion state
fed into the melting furnace together with the solid reduced iron discharged
from the reducing furnace in a non-combustion state becomes not less than an
amount of the carbonaceous material to be consumed in the melting furnace.

20 5. The method of producing a molten iron according to Claim 1, wherein
a MgO content in the raw material mixture and an amount of the MgO to
be added into the melting furnace are adjusted in such a manner that

the slag generated in the melting furnace has a MgO content of 6
mass% or more.

25